

Calorimeters that utilize the temperature sensitivity of magnetism have been under development for over 20 years. They have targeted a variety of different applications that require very high resolution spectroscopy. I will describe the properties of this sensor technology that distinguish it from other low temperature detectors and emphasize the types of application to which they appear best suited. I will review what has been learned so far about the best materials, geometries, and read-out amplifiers and our understanding of the measured performance and theoretical limits. I will introduce some of the applications where magnetic calorimeters are being used and also where they are in development for future experiments. So far, most magnetic calorimeter research has concentrated on the use of paramagnets to provide temperature sensitivity; recent studies have also focused on magnetically coupled calorimeters that utilize the diamagnetic response of superconductors. I will present some of the highlights of this research, and contrast the properties of the two magnetically coupled calorimeter types.